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a rotor having a plurality of silicon steel sheets wound by a plurality of winding coils and mounted inside said magnet cylinder.

REMARKS

Status of the Application

Claims 1, 3-5, 7-12 are pending in the subject application and stand rejected. Claims 3, 7, 10 and 12 were canceled without prejudice or disclaimer of their subject matter. Claims 1, 5, 9 and 11 were amended.

Objections to the Drawings

The drawings were objected for not showing a lumpy edge. FIG. 5 was amended to show a reference number 5 pointing to the lumpy edge.

A Letter to the Draftsperson with the substitute FIG. 5 and a marked version of FIG. 5 showing the changes made outlined in red ink are enclosed.

Rejections under 35 U.S.C. §112

Claims 9 and 11 were rejected under 35 U.S.C. §112, first paragraph. The Office Action provides that the drawings and the specification failed to disclose a non-periodic lumpy edge. The lumpy edge is disclosed in page 5, lines 14-19. FIG. 5 clearly indicates that the lumpy edge has a plurality of concave and convex surfaces that are arranged in an arbitrary or random sequence that is not limited by periodicity or other symmetry. FIG. 5 has been amended to add a reference number 5 for the lumpy edge. The specification has been amended to add reference number 5 for the lumpy edge and to describe that the concave and convex surfaces are arranged in an arbitrary or random sequence, as shown in original FIG. 5.

Rejections under 35 U.S.C. §103(a)

Claims 1 and 5 were rejected under 35 U.S.C. §103(a) over Ichihara (US 4,496,887) in view of APA.

Ichihara discloses a rotor magnet for a motor. The rotor 3 has an inner surface comprising curved segments separated by straight segments. A straight segment has an infinite radius and zero curvature, i.e. it is not a curve. The surface disclosed in Ichihara is not a continuous curve because it includes discontinuities (straight segments or steps) at A, B, C and D. See FIG. 3(a). These discontinuities will cause turbulence and eddies contributing to vibration and noise of the motor. Neither Ichihara nor APA disclose a surface that is a unitary and continuous wavy curve surface comprising a plurality of continuous and intersecting curve surfaces having different arc centers, i.e. lacking straight segments of zero curvature. This difference is important because it reduces significantly the vibration and noise of the motor. Accordingly, claims 1 and 5, and therefore claims 4 and 8 that depend from them are patentable over these references.

Claims 9-12 are rejected under 35 U.S.C. §103(a) over Ichihara in view of APA and in further view of Pletscher (1,566,693) and Tetsuo (JP 02119544). Neither Ichihara, APA nor Pletscher disclose a rotor with a lumpy edge as defined in the subject application. To the extent that Tetsuo is understood from its Figures, Tetsuo discloses an edge with a periodic or symmetric number of segments, as can be seen from FIGS. 1-3. Amended claims 9 and 11 recite a lumpy edge that comprises a plurality of concave and convex surfaces arranged in a random sequence, as shown in FIG. 5, i.e. a lumpy edge that is neither periodic nor symmetric. The randomness of the lumpy edge enables the motor to start easily, radiate the internally generated heat quickly and prevent a locked motor condition. Periodicity or other symmetry cannot be introduced as a limitation in FIG. 5, as it is clearly not shown or described anywhere in the application. Accordingly, claims 9 and 11 are patentable over the cited references.

Conclusion

Applicant submits that all of the pending claims are in condition for allowance. Accordingly, reconsideration and passage to allowance of the subject application at an early date are earnestly solicited. If the undersigned can be of assistance in advancing the subject

application to allowance, the Examiner may contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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